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Predictors of eating disorders outcomes in Polish teenage patients

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Summary

Aim of the study. The aim of this study was to assess factors associated with the outcome of eating disorders in Polish teenage patients.

Material and methods. Analyses covered the data of 47 patients diagnosed with any of the eating disorders according to DSM IV consulted for the first time in the outpatients clinic of the Child and Adolescent Psychiatry Unit between 2002/2004 in Krakow (DGN1), Poland and then followed up between 2009/2011 (DGN2). The influence of the number of variables collected at DGN1 on outcomes was analysed.

Results. The outcomes of anorexia nervosa and bulimia nervosa are influenced by some aspects of clinical picture, patients' objective family situation, their self-image and the perception they have of their family relations. The co-occurrence of depressive symptoms and younger age of parents proved to be the most clinically important negative outcome predictors in the whole group of eating disorders.

Discussion. The small size of group in the follow-up study is the most important limitating factor.

Conclusion. Outcomes in eating disorders are affected by several psycho-bio-social factors common to all patients and specific for the diagnosis type they initially present.

outcome / anorexia / bulimia

INTRODUCTION

Only a few factors turn out to have reliable identification of influence on outcomes of eating disorders (ED). Important clinical aspects related to the negative outcome of anorexia nervosa (AN) include: the beginning of symptoms during adolescence, the incidence of vomiting, bulimic symptoms, binging, purgative abuse, chronicity of symptoms and signs of personality disorders, anxiety, symptoms of obsessive-compulsive disorder, phobias, depression and addiction, longer period of illness without treatment, longer duration of treatment and the need for hospitalization [1, 2, 3]. Predictors of collapse in the course of treatment include a lower desired weight, lower scores in the Eating Disorders Inventory (EDI) and treatment in a non-specialised centre [3]. It should be noted, however, that conclusions from various studies and meta-analyses sometimes provide contradictory results [1].

There is insufficient data to allow a clear identification of predictors in bulimia nervosa (BN) [2]. In BN, comorbidity of associated psychiatric disorders and general psychiatric symptom severity and burden, avoidant personality disorders and a family history of alcohol abuse are a

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negative predictors of outcomes [3]. In the eating disorders not otherwise specified (EDNOS) group the presence of anorexic symptoms is a significant negative prognostic [3].

Positive predictors of outcomes in AN include histrionic personality traits, early onset, shorter duration of illness prior to treatment, shorter hospital stay, a good relationship with parents and high socioeconomic status. However, apart from histrionic personality traits, these data have not been confirmed in all studies [1].

The question of the similarities and differences between groups of people suffering from eating disorders in different cultural contexts, including in countries such as Poland undergoing transformation has also to be raised. Eating disorders are commonly considered to be Culture Bond Syndromes. In the West, the prevalence of anorexia appears to have been stable in recent decades. There are many indications that in westernising countries or in social groups aspiring to the Western world it is a disorder that rises during cultural transformations [4]. In addition to traditionally considered elements, such as racial differences or those related to social class, attention should be paid to what differences e.g. in risk factors may occur between countries.

The aim of this study is to analyse the factors influencing outcomes in eating disorders in the Polish socio-cultural context. It can be assumed that due to the specific socio-cultural factors and the organisation of health-care outcomes predictors can vary from those observed in other countries.

MATERIAL AND METHODS

Analyses covered data of patients first diagnosed between 2002/2004 (DGN1) and then followed up between 2009/2010 (DGN2). Out of 112 diagnosed at DGN1 with any of the eating disorders according to DSM-IV [5] (EDALL) 47 appeared at follow-up session [6]. DGN2 group consisted of 20 girls with restrictive anorexia nervosa (ANR), 9 with binge-purge anorexia (ANBP), 11 with bulimia nervosa (BUL), 7 with a subclinical diagnosis (EDNOS) from DGN1. Based on DGN2, the patients were assigned to the category of remission (CAT). 20 subjects turned out to be fully remittant (REM), 5 patients were enrolled in the group with symptoms of disordered eating without clinical signs (DISEAT), 11 in the group of subclinical symptoms according to DSM-IV (EDNOS), 11 in the group with clinical symptoms of eating disorders according to DSM-IV (CLIN). Detailed follow-up results are to be found in the first part of the communication [6].

The interactions between CAT DGN2 with a number of variables collected at DGN1 were analysed.

Variables related to the course of illness:

- age at onset (AO),
- duration of illness from onset of symptoms to DGN1 (DUI),
- age at DGN1 (AGE1),
- age at DGN2 (AGE2).

Variables related to the context of family and socioeconomic status.

- family structure (complete / incomplete),
- the number of children in the family,

birth order of daughters in the family,

- age of mother and father (in years) at the time of the DGN1,
- education of mother and father,
- employment status of mother and father,
- place of residence (village, town up to 100 thousand inhabitants, a city of more than 100 thousand inhabitants).

Variables associated with the clinical picture:

- the presence of additional diagnoses (including depressive disorders) based on a medical examination in the DGN 1,
- BMI calculated at the time of the DGN1,
- difference in weight1 (weight at the time of the study - weight at the onset of illness),
- difference in weight2 (weight at the time of the study - the lowest weight),
- difference in weight3 (weight at the outset - the lowest weight),
- Occurrence (number of days) and severity (number of episodes) of binge eating (objective bulimic episodes) in the last 1 month before the DGN1,
- Occurrence (number of days) and severity (number of episodes) of self-induced vomiting in the last 1 month before the DGN1,
- occurrence of dietary restrictions (starving), driven exercise, laxative misuse in the last 1

month before the study to influence shape or weight,
absence or irregularities of menstruation.

ED symptoms were defined using Eating Disorder Examination Interview (EDE) standards [7, 8].

The analysis also included the interactions between CAT and the results of the Polish version of the self-assessment tests collected during DGN1, which looked as follows:

– presence of depressive symptoms (Beck Depression Inventory Questionnaire - BDI) [9],
– self-assessment of problems related to eating (Eating Attitudes Test 26 - EAT26)
– self-image (Offer Self Image Questionnaire - QSIA)
– autonomy and intimacy in family relationships (Family of Origins Scale - FOS).

Descriptions of psychometric properties of tools are to be found in Table 1.

The analysis of the groups involved in the follow-up study began by comparing them with patients who were not examined in DGN2 in relation to the variables collected in DGN1 and listed above. The outcome analyses were carried out in the following groups: all eating disorders, regardless of type (EDALL) (n = 47), anorexia nervosa restrictive type, regardless of severity (ANKS n = 22) and bulimia irrespective of clinical severity (BULCS) (n = 13), anorexia nervosa restrictive type of clinical severity (ANRC) (n = 20) and bulimia of clinical severity (BULC) (n = 11).

The analyses were carried out in such a way that the different proportions of clinical diagnosis types in CAT outcome groups did not affect the results. For example, BMI, weight, menstruation or bulimic symptoms were not analysed in EDALL but in specific breakdowns.

Table 1. Psychometric properties of the scales used in the study

Beck Depression Inventory – BDI [9]
The instrument was standardised in Poland by Parnowski and Jernajczyk [10]. High scores indicate an intensification of depressive symptoms. Cronbach's alpha indicator for the original version is 0.87 [11] for Polish version is 0.72.
In the studies of adolescents, it is commonly accepted that a score of 10 to 15 points signifies inclusion in the group with mild severity of depression, 16–23 in the group of moderate severity of depression, 24 and above in the group of severe symptoms of depression. The score of 10 points and above signifies the inclusion in the group with manifest depressive symptoms [12].
The Eating Attitude Test (EAT-26) [13]
Standardisation of the instrument was made by K. Włodarczyk-Bisaga [14, 15]. Higher scores indicate higher levels of eating pathology. Reliability of Cronbach's alpha for the entire scale is 0.84. Higher results indicate increased level of eating pathology.
Offer Self-Image Questionnaire for Adolescents (QSIA) [16]
The QSIA assesses adolescents' self-image in 10 dimensions of 5 scales: I - Psychological Self – PS (PS-1 Impulse Control, PS-2:Emotional Tone, PS-3 Body Image), II – Social Self – SS (SS-1: Social relationships, SS-2: Morals, SS-3: Vocational and educational goals) III - Sexual Self – SxS (SxS: Sexual attitudes), IV – Familial Self – FS (FA:- Family Attitudes) , V – Coping Self –CS (CS-1: Mastery, CS-2: Emotional health, CS-3: Superior adjustment). The authors of Polish standardization were Badura Madej et al. [17, 18, 19]. Reliability of Cronbach's alpha for the international scales are above 0.77. The higher the score is, the more positive the self-image.
The Family of Origin Scale (FOS) [20]
FOS consists of two major scales and 10 subscales. These are: Autonomy (AUTON) - Clarity of expression (CE), Responsibility (R), Respect for others (RO), Openness to others (OO), Acceptance of separation (AS); Intimacy (INT) - Range of feelings (RF), Mood and tone (MT), Conflict resolution (CR), Empathy (E), Trust (T). The FOS was standardised for Polish conditions by Fajkowska-Stanik [21]. Polish values for the particular scales were similar to results obtained by the authors of the scale. High indicators for accuracy (W = 0.88; Cronbach's alpha = 0.82) and reliability (Spearman-Brown prediction formula = 0.92; Guttman's coefficient = 0.92) were also obtained for the FOS. The higher the score the more positive experiences in family were.

Statistical methods

To check the correlation between ordinal and nominal variables the Kruskal-Wallis test was used. The correlation between two ordinal variables or one ordinal and one interval variable was verified by means of the Spearman correlation coefficient. The Pearson's chi-squared test was applied to examine the association between two nominal variables. Due to a small size in the BULC group an analysis of test power was performed. Subsequently, the minimum sample size for a test power of 0.80 was calculated.

RESULTS

The presence of statistically significant differences between the groups involved in the follow up study (n = 47) and those not involved (n = 65) was shown only concerning the average age of the fathers of the girls who did not participate in the study (44.56 ± 5.26 years) and the average age of the fathers of the girls who participated in the DGN2 follow up (47.23 ± 5.62) (t (86.28) = -2.33, p =0.02).

EDALL group

29 girls in the DGN1 had no additional psychopathological symptoms. 17 patients had depression (in 4 from that group also suicide attempts were reported). One patient had OCD. The worse CAT DGN2 outcome was associated with the presence of depression diagnosed by a clinician in DGN1 (z = -2.51, p = 0.01) (tab.2). 6 girls in the DGN1 declared the use of laxatives. The worse CAT DGN2 outcome was associated with laxative misuse (z = -2.08, p = 0.05, power = 0.560, minN = 15) in the DGN1 (tab. 3).

There was also a significant interaction between worse DGN2 CAT outcomes and increased severity of depressive symptoms, as measured with two BDI intervals (BDI2) (no depression, depression present) (Z = -2.59, p = 0.01) (tab. 4), three BDI intervals (BDI3) (no depression, mild, moderate and severe) (R = 0.37, p = 0.01) (tab. 5) and continuously (BDI1) (R = 0.36, p = 0.02).

The age of both the father and the mother was strongly negatively correlated with a poor outcome. The younger the mother (R = - 0.41, p = 0.004) and father (R = - 0.52, p <0.001) were at

Table 2. EDALL: Depression diagnosed by clinician in DGN1 significantly differentiating CAT DGN2

CAT		depression present	no depression
N		17	30
Mean		2.88	1.93
Median		4.00	1.50
SD		1.36	1.05
Min		2.88	1.00
Max		4.00	4.00
Percentile	25	1.00	1.00
	50	4.00	1.50
	75	4.00	3.00

Table 3. EDALL: Laxatives misuse in DGN1 significantly differentiating CAT DGN2

CAT		laxative abuse	no laxative abuse
N		6	38
Mean		3.33	2.21
Median		3.50	2.00
SD		0.82	1.23
Min		2.00	1.00
Max		4.00	4.00
Percentile	25	2.75	1.00
	50	3.50	2.00
	75	4.00	3.00

Table 4. EDALL: Descriptive statistics of BDI2 significantly differentiating CAT DGN2

CAT		no depressive symptoms	presence of depressive symptoms
N		8	37
Mean		1.25	2.49
Median		1.00	3.00
SD		0.71	1.22
Min		1.00	1.00
Max		3.00	4.00
Percentile	25	1.00	1.00
	50	1.00	3.00
	75	1.00	4.00

Table 5. EDALL: Descriptive statistics of BDI3 significantly differentiating CAT DGN2

CAT	BDI3	N	%
REM	no symptoms of depression	7	36.8
	mild severity of depression	8	42.1
	moderate severity of depression	4	21.1
DISEAT	mild severity of depression	3	60.0
	moderate severity of depression	2	40.0
EDNOS	no symptoms of depression	1	9.1
	mild severity of depression	7	63.6
	moderate severity of depression	3	27.3
CLIN	mild severity of depression	3	42.9
	moderate severity of depression	4	57.1

the time of the DGN1, the poorer the CAT DGN2 outcome was (tab. 6).

Most of the girls came from towns with a population of up to 100.000 inhabitants (42.6%) and from cities of over 100.000 (31.9%). Only 19.1% of patients were from rural areas. 78% of patients came from complete families. The mean patient's age at the time of the DGN1 was 16.71 years (SD: 1.48 years/min: 12.62 years/max 19.59 years). The mean age of mothers at the time of the DGN1 was 44.70 (SD: 5.93 years, 35.00 years min/max. 58.00 years) and of fathers 47.23 (SD: 5.62 years; min: 36, max: 63 years). Among the fathers, 21.3% had higher education, 4.3% incomplete higher, 29.8% secondary, 23.4% vocational, 2.1% primary. Among the mothers, 27.7% had higher education, 8.5% incomplete higher, 42.6% secondary, 4.3% incomplete secondary, 8.5% vocational, 6.4% primary. No interactions between above socio-economical variables and outcomes were observed in EDALL group.

Table 6. EDALL: CAT important statistically correlations with dependant variables

CAT	BDI3	N	%
REM	<=10	7	36.8
	>10	12	63.2
DISEAT	>10	5	100.0
EDNOS	<=10	1	9.1
	>10	10	90.9
CLIN	>10	10	100.0

The ANRCS and BULCS group

In the ANRCS group with cases of restrictive anorexia regardless of clinical severity, the value of 10 points in BDI (BDI2) was exceeded by 70% of patients. A poorer DGN2 CAT outcome was observed in the group of girls with self-assessed depressive symptoms (Z = -2.19, p = 0.05) (Table 7).

Table 7. ANRCS: BDI2 descriptive statistics significantly differentiating CAT DGN2

CAT	BDI3	N	%
REM	<=10	7	36.8
	>10	12	63.2
DISEAT	>10	5	100.0
EDNOS	<=10	1	9.1
	>10	10	90.9
CLIN	>10	10	100.0

In addition in ANRCS group, a younger age of the father was correlated with a more negative CAT DGN2 outcome (Z = -0.46, p = 0.04). A longer period of illness prior to DGN1 was correlated with a more negative CAT DGN2 outcome (Z = 0.47, p = 0.30) (Table 8).

Table 8. ANRCS/BULCS: CAT important statistically correlations with dependant variables

DGN1 Variables	CAT (N=13)
ANRCS	
Father's age	-0.46 (0.04)
Duration of illness until DGN1	0,47 (0.30)
BULCS	
Age at onset	-0.85 (0.00)
Current BMI	-0.56 (0.050)
Mother's education	0.70 (0.01)
Number of children in family	-0.69 (0.02)
Frequency of objective binging episodes	-0.57 (0.04)
Frequency of self-induced vomiting	-0.60 (0.03)
QSIA - Vocational and educational goals	0.78 (0.00)

In the BULCS group, the lower the BMI at the time of the DGN1, the lower the incidence of bulimic episodes per month, the lower incidence

of self-induced vomiting, the younger age at onset and the smaller number of children in the family, the worse the CAT DGN2 outcome was. A worse outcome was correlated with higher maternal education and a higher score on the Scale of vocational and educational goals QSIA (Tab. 8).

ANRC and BULC group

In the ANRC group the younger the father and the better the assessment of autonomy and intimacy in families of origin the worse the CAT DGTN2 outcome (Table 9).

Table 9. ANRC: CAT correlations with dependant variables

DGN1 Variables	CAT (N = 20)
Father's age	-0.50 (0.04)
FOS AUTON: RO – Respect for others	0.45 (0.05)
FOS INT: RF – Range of feelings	0.48 (0.04)
FOS INT: CR – Conflict resolution	0.49 (0.035)
SRP INT major scale	0.47 (0.04)

In the case of BULC, the mother's education was higher, the duration of illness prior to DGN1 longer, some dimensions of self-image better and the CAT DGN2 outcome was worse (Table 10). In 8 out of 13 presented analyses in the BULC group, test power exceeded the value of 0.80. In the remaining five, it exceeded the value of 0.60.

Table 10. BULC: CAT correlations with dependant variables

DGN1 Variables	CAT (N = 11)	Power	minN
Age at onset	-0.83 (0.00)	0.99	7
Mother's education	0.68 (0.02)	0.78	12
Number of children in family	-0.63 (0.05)	0.62	15
Duration of illness until DGN1	0.63 (0.04)	0.67	15
Frequency of objective binge eating episodes	-0.61 (0.05)	0.62	16
QSIA Psychological Self – PS	0.84 (0.00)	0.99	6
Impulse control	0.68 (0.02)	0.78	12
Emotional tone	0.71 (0.01)	0.84	11
Body image	0.61 (0.05)	0.62	16
QSIA Social Self – SS	0.68 (0.02)	0.78	12
Vocational and educational goals	0.77 (0.01)	0.94	8
QSIA Coping Self –CS	0.72 (0.01)	0.86	10
Emotional health	0.63 (0.047)	0.67	15

DISCUSSION

The aim of this study was to assess the factors affecting the outcome of eating disorders. It is one of the first Polish studies dealing with this topic. The results will be discussed in relation to specific thematic topics.

Variables related to the time and course of the illness

Younger age at the onset of illness was found to be associated with a positive outcome in the BULCS group. Early age at the onset of symptoms is a favourable predictor in anorexia nervosa [2]. Presumably, in the light of the results, this correlation also applies to bulimia nervosa. There is some evidence that the age of onset in eating disorders may be associated with different genetic risk factors [22], and thus perhaps with the response to treatment.

Duration of illness from onset of symptoms to DGN1 (DUI) proved to be significantly correlated with worsening of outcome in the BULC group. Similar correlations were observed also in anorexia nervosa in other studies [2]. Data relating to the period prior to the first consultation were not collected and analysed under this project. In this regard, we only have clinical observations. DUI in most of the investigated girls marked a period of untreated eating disorders before the first consultation.

Referral to the clinic could also be a consequence of several-months-long (or longer) ineffective therapy in the regional centres, dynamic build-up of symptoms, or dread of parents who wanted their daughter to be treated at the university clinic. Longer duration of illness before seeking help may be a derivative of hiding the symptoms, lower determination of the family in searching for help or longer subclinical duration of symptoms. Due to the above, drawing conclusions about the significance of the obtained result is difficult. Interpreted directly it indicates the significance of a rapid commencement of treatment in a specialist centre.

Symptoms diagnosed by a clinician and in self-assessment tests

Misuse of laxatives was found to have negative impact on outcome in the whole group of eating disorders patients (EDALL). Reasons for which laxatives are taken in different eating disorders may vary. With the proviso, that in anorexia nervosa restrictive type, it means using laxatives only incidental. The different reasons for use of laxatives may also arise from personality traits of individual patients [23]. Frequency of use of laxatives in adolescents suffering from eating disorders is poorly understood. The use of laxatives in eating disorders, with certain differences for anorexia and bulimia nervosa may be associated with more severe psychopathological symptoms and problems, with a extreme personality psychopathology in the bulimic group [23]. Bulimic patients who take laxatives have a tendency to abuse diuretics, use of diet pills, chew and spit out food, report a history of suicide attempts, self-injurious behaviour, and prior inpatient treatment for depression [24]. Negative significance of the use of laxatives in studied group may result from the fact that its occurrence is associated with multiple forms of purgation [23]. The use of laxatives in anorexia nervosa is associated with a longer duration of the disorder [25]. The use of laxatives in eating disorders may also be associated with electrolyte, metabolic disturbances, renal, bladder dysfunction [26] or long-term changes in gastrointestinal function [27]. The term "laxatives" is indeed a very general name for the group which can accommodate agents with different action mechanisms [25]. It has to be added that in studied groups diuretics were not used by any of patients.

In the BULCS and BULC groups, more negative outcome correlated with lower frequency of objective binging episodes and in the BULCS group additionally with low frequency of self-induced vomiting identified in DGN1. There are several interpretations of these results. An important factor that modifies the outcome may be the applied treatment, more intense in the case of more severe symptoms. Patients reporting greater severity of symptoms may also be more honest with the investigator.

The occurrence of depressive disorders diagnosed by a clinician in EDALL and the presence of self-assessed depressives measured by BDI (treated as both a continuous and categorical variable) in EDALL, ANRCS was found to be significantly associated with the poorer outcome. BDI is treated as a depression diagnostic tool. There is not, however, a clear correlation. The BDI scores may indicate a broader emotional state than depression alone, distinguishing between anxiety disorders and personality problems [28, 29]. In this analysis, cut-off points were selected as suggested in other studies [12]. BDI was standardised in Poland in the age group of 30–55 [10], therefore the results achieved by the teenagers must be interpreted with caution; however this questionnaire is successfully used in research of Polish populations of developmental age [12]. The above doubts apply not only to the self-assessment of depression. In addition, clinical diagnosis of depression in adolescence would have a different meaning than in adults [30, 31]. Regardless of the doubts in this respect, reporting of depression by a clinician and self-assessment of depressive symptoms by patients may have important prognostic significance in patients with eating disorders, including specific significance in patients with anorectic symptoms. It should also be mentioned that in eating disorders depression measured by BDI correlates with self-image [32] and perception of family relations [33]. From this perspective, depressiveness in eating disorders emerges as an important factor with impact on the broad clinical picture and outcome in the investigated group. The correlations identified in this study may mean comorbidity of various disorders unfavourable for the outcomes or imply that symptoms of depression and eating disorders are the expression of common biological mechanisms in some patients.

Variables associated with family situation and socioeconomic status

A correlation between the age of both parents and the outcome in the EDALL group, fathers' age in BULCS and ANRC was observed. The more advanced the age, the more favourable the outcome was. The parents' age is not usual-

ly a significant predictor in the eating disorders studies. The obtained result may be an artefact of the connection between the fathers' age and patients' participation in the follow-up study. The parents' age in the context of psychopathology of the developmental period appears in the literature in different, sometimes contradictory contexts. More advanced age of the parents of both sexes, although in different interactions brings with it a higher risk of schizophrenia [34], autism [35] and other genetic syndromes [36]. The correlation between the parents' age and a higher risk of mental disorders may result not only from genetics but also from the individual characteristics of partners, which influence their decision to get married late [37]. In opposition to that, the parents' older age may be associated with a better material position and experience gained in raising older siblings [38] or increase problem-coping skills [39].

A larger number of children in the family proved to correlate with a better outcome in BULCS. This result may coincide with the one regarding parents' age (and experience) in the previous analyses and the possibility, a patient has, of obtaining support not only from the father and mother but also from siblings.

The higher the mother's education, the worse the outcome in the BULC group. For years, an opinion dominated that the highest prevalence of eating disorders occurs among girls from higher classes of society [40, 41]. Currently, however, it is difficult to discern a clear association between the occurrence of disorders and social class, as the results of various epidemiological studies contradict one other [42]. The correlation between the level of education, belonging to defined social class and the development of eating disorders or its outcomes, however, is still reflected in reliable research results [43]. It may be assumed that in Poland, which is undergoing the process of transformation, the education and aspirations of parents may be a more important risk factor than those observed in the developed Western countries [44]. It may also reflect the specific importance for Polish culture of parental age in eating disorders outcomes — younger parents can be more influenced by thin ideal and body image issues than the older ones. Other analyses do not confirm, however, that the incidence of eating disorders in the studied in DGN1 group is associated with a greater focus on appearance and body of mothers of patients with eating disorders [45]. It should also be noted that all patients with eating disorders came from a particular social group. Comparing the declared education of the parents of our patients with sociological data, an over-representation of people with higher education and under-representation of those with vocational and primary may be observed. In 2004 in Poland, 11.7% men and 14.2% women had higher education, 30% men and 17.2% women had vocational training, and 21.2% men and 24.7% women had primary education [Polish Population in 2004, GUS Main Statistical Office] [46]. Given the urban populations, which were over-represented in the survey, this means 16.9% men with higher education and 18.1% women. In cities, it may signify, however, not only the class character of eating disorders but also, which is significant in the interpretation of results, class access to consultations and treatment in an institution where the study was conducted.

Self-image and the image of family relations

Individual aspects of self-image measured with QSIA proved to correlate with outcomes in the BULCS and BULC groups. Better self-image was accompanied by a worse outcome. In the ANRC group significant correlation with outcomes of several FOS scales relating to both the experience of autonomy and intimacy, including the general scale of intimacy, was observed. Better experience with different aspects of autonomy and intimacy in families of origin proved to be associated with a worsening of outcome.

The results obtained are in part paradoxical. They contradict the observations, which indicate that a good relationship with parents is one of the most positive significant predictors of outcomes for eating disorders, especially in anorexia nervosa. However, to what extent can self-assessment of family relationships in anorexia nervosa be trusted? In the analysed material, which is, moreover, supported by several other studies, both self-image and the perception of family relationships in anorexia nervosa is similar to that observed in healthy girls [47–50]. Looking at these results it is difficult not to refer to the

clinical experience of the authors of the text and many of those working with patients diagnosed with anorexia nervosa. If only patients' declarations are taken into consideration, they might be perceived as not having any emotional dilemmas or difficulties and coming from problem-free homes. It may be assumed that the more idealised the image of patients' own family, the more difficult the recovery from restrictive anorexia may be. The QSIA results from the BULCS and BULC group may be interpreted in a similar manner. A good self-image may not be an expression of rational self-assessment but rather the result of defence mechanisms, which deny the presence of symptoms and other aspects of themselves [50].

LIMITATIONS OF THE STUDY

Looking at all the results obtained in the whole group of eating disorders it should be kept in mind that this group is heterogeneous. The correlations observed in this group may be impacted by diverse CAT DGN2 outcomes for particular diagnoses, which mean that some variables may be over-represented or enhanced in one of the CAT categories. Hence the decision to conduct several complementary analyses which categorise patients in different ways.

In the literature, studies that examine the whole group of eating disorders are becoming less common. The exceptions here are follow up studies, where the investigators' attention focuses not on the differences between diagnoses but on the variables that affect the outcome in the whole group. The studied data supports the concept of significant differences between restrictive anorexia and its binge/purge subtype. The similarities between ANBP and bulimia nervosa are also emphasised [51]. Another important question relates to the patients with subclinical symptoms from the EDNOS group. Changes made in the DSM-V [52], compared with the DSM-IV [6] are consistent with the results of studies suggesting similarities between clinical and subclinical anorexia and separately bulimia nervosa. However, not all cases diagnosed as EDNOS are similar to the entire symptomatic clinical picture [53]. The widely prevailing view of the clinical inadequacy of diagnostic criteria for eating disorders in the DSM-IV [54, 55] lead to their significant change in the DSM-V. Expanding the clinical group by some patients from the EDNOS group is a solution consistent with these directions [56].

The main objection concerning the work is the small size of each group. It can significantly affect the obtained results. However, the results of the test power analysis, performed for the smallest group are satisfactory. The calculated minimum sample size indicates the need for a small increase in the group so that power of 0.80 could be obtained with a given correlation.

Another weakness of the study is the low percentage of participation in the follow-up study. Most of the people with whom we were able to establish contact, however, responded positively to participation in the study.

There may also be doubts concerning the division into 4 outcome categories [5]. Analyses with a different division of data will be subject to further publications. Differences between length of follow-up between patients are the important limitation too. Although it was not influenced by type of diagnosis.

CONCLUSIONS

The outcomes of anorexia nervosa and bulimia nervosa are impacted by several factors associated with the clinical picture, patients' objective family situation, their self-image and the perception they have of their family relations.

The co-occurrence of depressive symptoms, both diagnosed by clinician and self-assessed with Beck Depression Inventory and younger age of both the father and the mother proved to be the most clinically important negative outcome predictors in whole group of eating disorders.

The results of the present study raise questions about specific therapeutic models adapted to both eating and mood disorders taking into account specific forms of psychotherapy or pharmacotherapy.

Studies on the outcomes in eating disorders in the Polish cultural context provide results compatible with many observations from other countries and cultures with the major exception of the importance of parents' age.

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